

AMENDMENT

Please amend the application as follows:

In the specification:

Please replace the paragraph beginning at page 26, line 25 with the following rewritten paragraph:

E1 -- Aquifex Histidinol-phosphate Aminotransferase --

In the claims:

Please replace claims 1, 17, 27, and 33 with amended claims 1, 17, 27, and 33 as follows:

E2 -- 1. (Thrice Amended) An isolated polynucleotide selected from the group consisting of:

a) a polynucleotide encoding an enzyme with aminotransferase activity wherein the amino acid sequence of the enzyme is at least 70% identical to SEQ ID NOS:25-32; and

b) a polynucleotide comprising a nucleic acid sequence complementary to a polynucleotide of a).

E3 17. (Twice Amended) A nucleic probe comprising a nucleic acid sequence wherein the nucleic acid sequence consists of an oligonucleotide from at least 10 to about 50 nucleotides in length and having a region of nucleotides that is at least 70% complementary to a nucleic acid target region of a nucleic acid encoding an amino acid sequence selected from the group consisting of SEQ ID NOS:25-32 and which hybridizes to the nucleic acid target region to form a detectable target:probe duplex under conditions that include 0.9 M NaCl, 5.0 mM NaH₂PO₄, 5.0 mM Na₂ EDTA, 0.5% SDS, 10X Denhardt's and 0.5 mg/mL polyriboadenylic acid at about 45°C.

Applicant: Warren and Swanson
Application No.: 09/481,733
Filed: January 11, 2000
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Atty. Docket No. DIVER1240-5

In the Claims

✓
Please cancel claim 16 without prejudice.

Please amend claims 1 and 17 as follows:

- B¹ Sub C1
1. An isolated polynucleotide encoding an enzyme with aminotransferases activity and which is at least 70% identical to a member selected from the group consisting of:
- a) SEQ ID NOS:25-32;
 - b) SEQ ID NOS:25-32 wherein T can also be U; and
 - c) nucleic acid sequences complementary to a) and b).

- B² Sub C3
17. A nucleic acid probe comprising an oligonucleotide from about 10 to 50 nucleotides in length and having an area of nucleotides that is at least 70% complementary to a nucleic acid target region of a nucleic acid encoding an amino acid sequence selected from the group consisting of SEQ ID NOS:25-32 and which hybridizes to the nucleic acid target region to form a detectable target:probe duplex under conditions that include 0.9 M NaCl, 5.0 mM NaH₂PO₄, 5.0 mM Na₂ EDTA, 0.5% SDS and 10 X Denhardt's at about 45° C.

REMARKS

The present invention provides isolated polynucleotides that encode an enzyme with aminotransferases activity. The invention polynucleotides are at least 70% identical to the nucleotide sequences of SEQ ID NOS:25-32; to such sequences wherein T can also be U; or to sequences complementary to either of these. The invention further provides nucleic acid probes of about 10 to 50 nucleotides in length which contain a region that is at least 70% complementary to a nucleic acid target region of a nucleic acid encoding an amino acid sequence selected from the group consisting of SEQ ID NOS:25-32. The invention probes hybridize to the nucleic acid target region to form a detectable target:probe duplex under conditions that include 0.9 M NaCl, 5.0 mM NaH₂PO₄, 5.0 mM Na₂ EDTA, 0.5% SDS and 10 X Denhardt's at about 45° C.